What is claimed is:

1. A process for producing a microstructured tool insert for injection molding a part which is produced from a synthetic material, a metal or from a ceramic material and which comprises an arrangement of microstructures which are formed on an outer surface of the synthetic material part and have two different predetermined depths, said process comprising:

(a) photo-lithographically masking the front side of a first wafer with a first etching mask which corresponds to an arrangement of microstructures,

(b) micro-structuring the front side of the first wafer by means of plasma etching to form an arrangement of first microstructures which are formed on the front side of the wafer and have a first predetermined depth,

(c) removing the first etching mask from the front side of the first wafer,

(d) photo-lithographically masking the rear side of the first wafer with a second etching mask which corresponds to an arrangement of second microstructures, which are to be in fluid connection with the first microstructures on the front side of the first wafer,

(e) microstructuring the rear side of the first wafer by means of plasma etching to form an arrangement of second microstructures which form cavities which have a first orifice on the rear side of the first wafer and issue into the first microstructures on the front side of the first wafers or have a second orifice on the front side of the first wafer, said cavities having inclined side walls and a tapered cross section the width of which increases with the distance with respect to the rear side of the first wafer,

(f) removing the second etching mask from the rear side of the first wafer,

(g) attaching the rear side of the first wafer to a carrier substrate to form a master,

(h) applying an electrically conductive thin layer to the microstructured front side of the first wafer and to the carrier substrate surfaces which are accessible through the mentioned cavities,

(i) electrochemically depositing a metal layer on the front side of the first wafer and in the cavities which are present therein and are formed by the second microstructures,

(j) making planar the outer surface of the deposited metal layer, and

(k) separating the metal layer from the master, wherein the separated metal layer can be used as a tool insert for injection molding a part.

2. The process of Claim 1 wherein the first wafer is a silicon wafer.

3. The process of Claim 1 wherein the carrier substrate is a glass wafer.

4. The process of Claim 1 wherein the carrier substrate is a silicon wafer.

5. The process of Claim 1, wherein the deposited metal layer is a nickel layer.

6. The process of claim 1 wherein the microstructuring of the rear side of the first wafer is performed by means of through-etching the first wafer with an undercut, so that the microstructures formed have said cross-section the width of which increases with the distance with respect to the rear side of the first wafer.

7. A process for injection molding a part which is produced from a synthetic material, a metal or from a ceramic material and which comprises an arrangement of microstructures which are formed on an outer surface of the synthetic material part and have two different predetermined depths, wherein a tool for injection molding is used which is formed from a first and a second tool half, said process comprising:

(a) installing a first tool insert as a first tool half which serves to shape the arrangement of microstructures, wherein the first tool insert is produced according to a process comprising the steps of photo-lithographically masking the front side of a first wafer with a first etching mask which corresponds to the arrangement of microstructures, micro-structuring the front side of the first wafer by means of plasma etching to form an arrangement of first microstructures which are formed on the front side of the wafer and have a first predetermined depth, removing the first etching mask from the front side of the first wafer, photo-lithographically masking the rear side of the first wafer with a second etching mask which corresponds to an arrangement of second microstructures, which are to be in fluid connection with the first microstructures on the front side of the first wafer, microstructuring the rear side of the first wafer by means of plasma etching to form an arrangement of second microstructures which form cavities which have a first orifice on the rear side of the first wafer and issue into the first microstructures on the front side of the first wafers or have a second orifice on the front side of the first wafer, removing the second etching mask from the rear side of the first wafer,

bonding the rear side of the first wafer to a carrier substrate to form a master, applying an electrically conductive thin layer to the microstructured front side of the first wafer and to the carrier substrate surfaces which are accessible through the mentioned cavities, electrochemically depositing a metal layer on the front side of the first wafer and in the cavities which are present therein and are formed by the second microstructures, making planar the outer surface of the deposited metal layer, and separating the metal layer from the master,

(b) installing a second tool insert as a second tool half which is arranged opposite the first tool half,

(c) closing the tool for injection molding formed from the first and second tool insert,

(d) injecting a material melt into the cavity between the first and the second tool insert,

(e) cooling the injected material melt and

(f) ejecting from the molding tool for injection molding a part which is formed by the setting of the injected material melt and which comprises microstructures with inclined surfaces which enable the part to be removed from the molding tool.

8. A process for producing a predetermined portion of a mold, said mold being used for molding a part having microstructures, said process comprising:

(a) forming at least one first microstructure on a front side of a wafer, said first microstructures having a first predetermined depth,

(b) forming at least one second microstructure on a rear side of the wafer, said second microstructures having a second predetermined depth and inclined walls,

(c) bonding the rear side of the wafer to a carrier substrate to form a master,

(d) depositing metal on the wafer that fills the first and the second microstructures, and

(e) separating the metal layer from the master.

9. The process of claim 8 wherein forming said first microstructure includes masking the front side of the wafer with a first etching mask which corresponds to the first microstructure.

10. The process of claim 8 wherein forming the first microstructure includes etching the front side of the wafer after masking this side with the first etching mask.

11. The process of claim 10 wherein the etching is plasma etching.

12. The process of claim 8 wherein forming the second microstructure includes masking the rear side of the wafer with a second etching mask which corresponds to the second microstructure.

13. The process of claim 12 wherein forming the second microstructure includes etching the rear side of the wafer after masking of this side with the second etching mask.

14. The process of claim 13 wherein the etching is plasma etching.

15. The process of claim 8 wherein depositing of the metal layer includes applying an electrically conductive thin layer to the front side of the wafer and to the carrier substrate surfaces followed by electrochemically depositing a metal layer on the front side of the first wafer and in the first microstructure and the second microstructure.

16. A process for molding a part which includes microstructures using a mold having first and second mold portions, said process comprising:

(a) installing a first tool insert into a predetermined portion of the first mold portion, said first tool insert serving to shape the arrangement of microstructures, wherein the first tool insert is produced according to a process comprising the steps of forming at least one first microstructure on a front side of a wafer, said first microstructures having a first predetermined depth, forming at least one second microstructure on a rear side of the wafer, said second microstructures having a second predetermined depth and inclined walls, bonding the rear side of the wafer to a carrier substrate to form a master, depositing metal on the wafer that fills the first and the second microstructures, and separating the metal layer from the master,

(b) providing a second mold portion,

(c) forming the mold by bringing the first and second mold portions into contact with one another, said first tool insert extending into a cavity formed upon contact of said first and second mold portions,

(d) introducing a material melt into the mold formed by the first and second mold portions,

(e) cooling the material melt and

(f) removing the cooled material melt from the mold.